

Reply to Office Action of September 16, 2005

REMARKS

Claims 1-20 as originally filed are now cancelled and a new set of claims 21-40 are submitted herewith for examination.

In the detailed action, the drawings were noted to require correction with respect to Figures 1, 2 and 3 so as to include the legend "Prior Art". In this response, Figures 1, 2, 3 and 4 now include the legend "Prior Art". These changes appear on new replacement sheets filed herewith. Additionally, Figures 5(a) – Figure 8 are being amended so as to more fully disclose the invention, along with replacement of reference numerals corresponding to amendments being made to the specification by this response.

Claim objections were noted with respect to claims 5, 9, 11 and 15 and correction was required; however, this requirement is now obviated by the submission of new claims 21-40.

The rejection based on double patenting with respect to claims 1-20 under 35 U.S.C. 101 was rendered by the Examiner; however, this rejection is now obviated by the submission of new claims 21-40 submitted herewith.

Claims 1-20 were also rejected under 35 U.S.C. 102(b) as being anticipated by *Freidhoff et al.* (U.S. 5,386,115). It is submitted that this rejection is now overcome by the submission of new claims 21-40.

New independent claim 21, for example, is directed to a solid state ion gauge for analyzing a sample gas having multiple gas constituents, comprising: a first and a second mutually opposing substrate of semiconductor material separated by a predetermined distance so as to form an elongated intermediate gas ionizing cavity region and including an open side inlet for feeding a sample of gas to be analyzed into the gas ionizing cavity region; a source of electrons located on a surface of the first substrate facing the surface of the second substrate;

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a collector of electrons, opposing the source of electrons, located on the surface of the second substrate; an ion anode pad located on the surface of the first substrate adjacent a source of electrons; a gate electrode located in a space between the source of electrons and the collector of electrons; an ion anode located on the surface of the second substrate adjacent the collector of electrons; an ion detector located at one end of the first substrate for receiving ions generated in the gas ionizing region when electrons from the source of electrons travel through the sample of gas toward the collector of electrons and collide with molecules of the gas sampled; an ion deflector located on the second substrate for moving ions in the gas ionizing region toward the ion detector; and, first and second magnet elements respectively located on the first and second substrates for generating a magnetic field across and through the gas ionizing region for controlling a travel path of electrons through the ionizing region when generating ions of the gas sampled.

It is respectfully submitted that new independent claim 21 is neither shown nor suggested by the arrangement disclosed by the *Freidhoff et al.* reference nor would it be obvious to one skilled in the art without hindsight provided by applicant's own disclosure.

Accordingly, independent claim 1 is now deemed to be in condition for allowance and dependent claims 22-40 become allow by virtue of their dependency from an independent claim.

Conclusion

In view of the foregoing, Applicant respectfully submits that all of the claims now present in the application are in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

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Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment from or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17; particularly, the extension of time fees.

Dated: December 15, 2005

Respectfully submitted,

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Attachments

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AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figures 1-8.

Attachment: Replacement sheets 1/5 – 5/5 are attached as well as annotated sheets showing changes.

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REPLACEMENT SHEETS

Replacement sheets of Figures 1-8, drawing sheets 1/5-5/5, are attached.

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ANNOTATED SHEETS SHOWING CHANGES

Annotated drawings sheets 1/5-5/5 showing changes marked in red ink to Figures 1-8 are attached.



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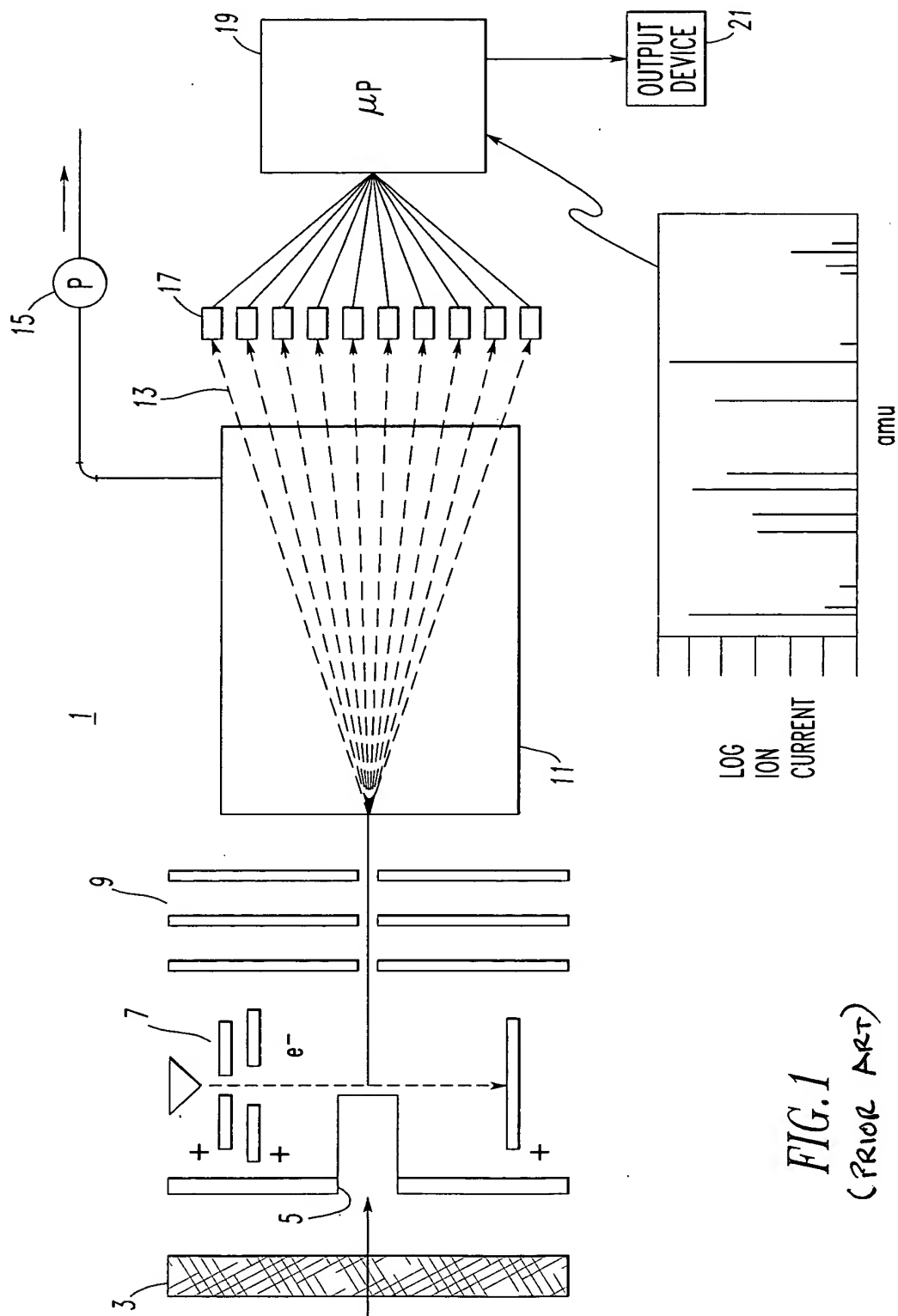


FIG. 1
(PRIOR ART)

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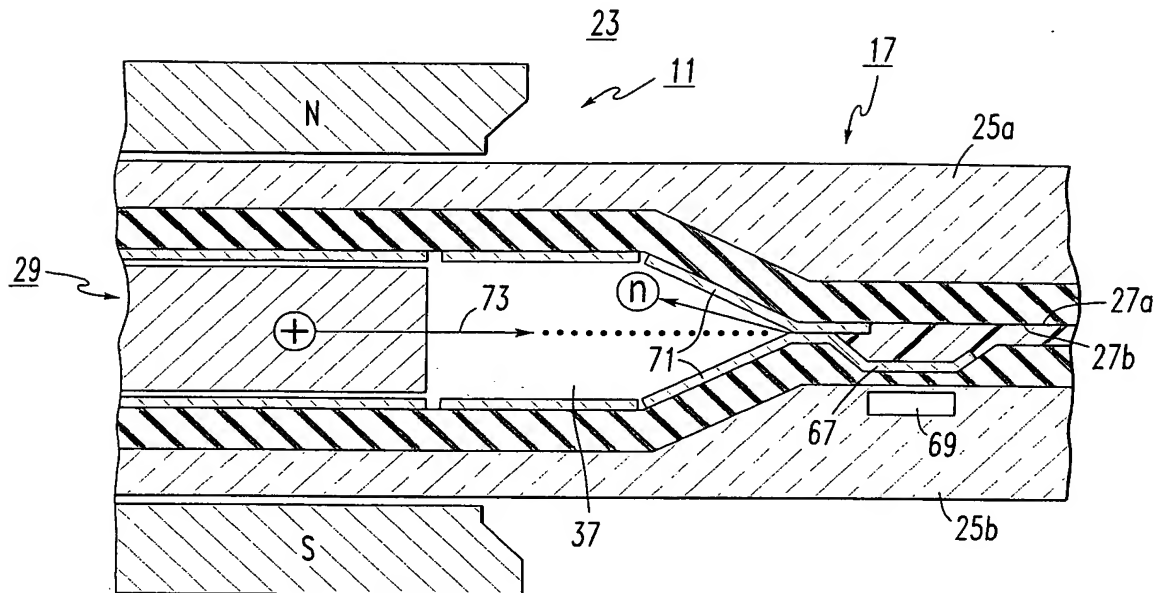


FIG. 3
(PRIOR ART)

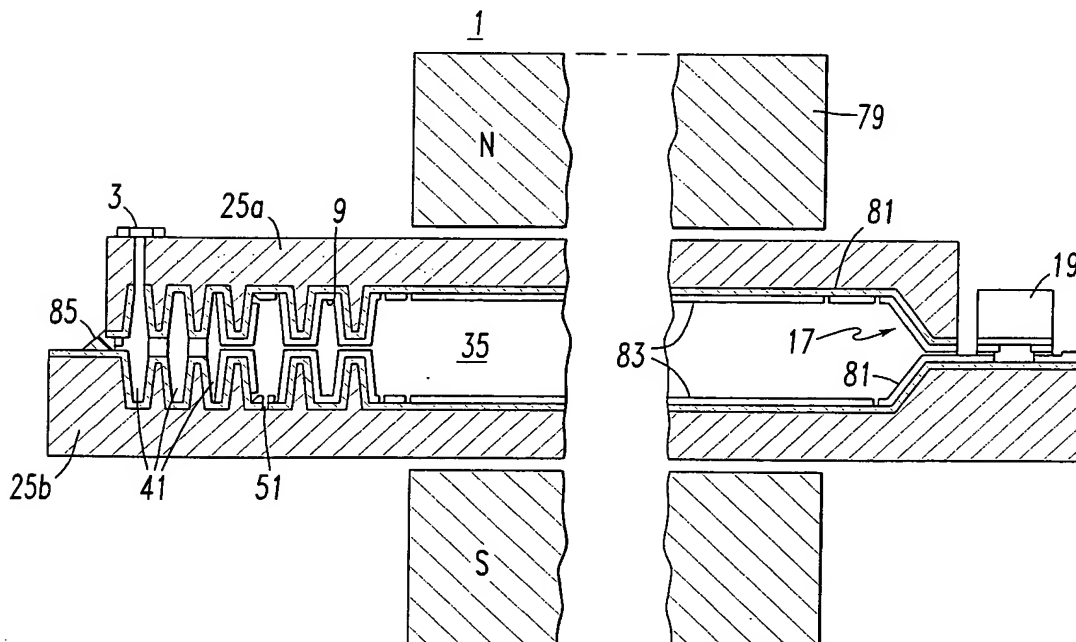


FIG. 4
(PRIOR ART)

REPLACEMENT SHEET

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ANNOTATED SHEET

